

sintering said green body in an air atmosphere at a temperature in the range of 1400°C to 1800°C;

wherein said alumina powder has a purity of 99.99 wt% or more and comprises a polyhedral particle having substantially no fractured surface, and comprises  $\alpha$  alumina particles having polyhedral shape; a D/H ratio of from 0.5 or more to 3.0 or less, wherein D represents a maximum particle diameter parallel to the hexagonal lattice plane of a hexagonal close packed lattice of  $\alpha$  alumina, and H represents a maximum particle diameter perpendicular to the hexagonal lattice plane of a hexagonal close packed lattice of  $\alpha$  alumina; the number-average particle size of from 0.1  $\mu\text{m}$  or more to 1.0  $\mu\text{m}$  or less; a D90/D10 ratio of 7 or less, wherein D10 and D90 are the particle sizes at 10% cumulation diameter and 90% cumulation diameter, respectively, from the smallest particle side in a cumulative particle size distribution.

2. (Amended) The process according to claim 1, wherein an alumina powder in mixture with a sintering agent is subjected to ultrasonic irradiation, mechanical stirring not using a grinding medium, or ultrasonic irradiation and mechanical stirring not using a grinding medium, to provide a slurry of alumina dispersed in a solvent.